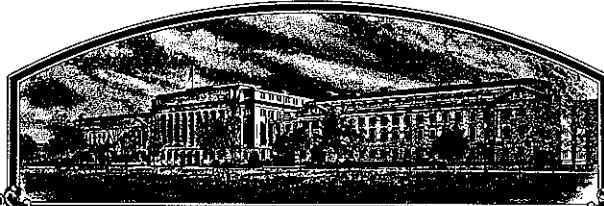


No.

8600020



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

**Asgrow Seed Company**

Whereas, THERE HAS BEEN PRESENTED TO THE

**Secretary of Agriculture**

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT (1930, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'A3307'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this *31st* day of March in the year of our Lord one thousand nine hundred and eighty-seven.

Attest:

*Kenneth H. Evans*  
Commissioner  
Plant Variety Protection Office  
Agricultural Marketing Service

*Richard E. Lyng*  
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE

APPROVAL EXPIRES 4-30-86

FORM APPROVED: OMB NO. 0581-0055

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

|  |  |  |  |   |  |
|--|--|--|--|---|--|
| 1. NAME OF APPLICANT(S)<br>Asgrow Seed Company   |  | 2. TEMPORARY DESIGNATION                     |  | 3. VARIETY NAME<br>A3307  |  |
| 4. ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code)<br>9620-190-25<br>Gull Road, Bldg. 190<br>Kalamazoo, MI 49001   |  | 5. PHONE (Include area code)<br>616-385-6605 |  | FOR OFFICIAL USE ONLY<br>PVPO NUMBER<br>8600020   |  |
| 6. GENUS AND SPECIES NAME<br>Glycine max   |  | 7. FAMILY NAME (Botanical)<br>Leguminose     |  | FILING<br>DATE 11/15/85<br>TIME 2:00 <input type="checkbox"/> A.M. <input checked="" type="checkbox"/> P.M.   |  |
| 8. KIND NAME<br>Soybean  |  | 9. DATE OF DETERMINATION<br>October 1981     |  | FEES RECEIVED<br>AMOUNT FOR FILING \$1,800<br>DATE 10/25/85<br>AMOUNT FOR CERTIFICATE \$200.00<br>DATE 2/13/87  |  |
| 10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.)<br>Corporation   |  |  |  | 11. IF INCORPORATED, GIVE STATE OF INCORPORATION<br>Delaware  |  |
| 12. DATE OF INCORPORATION<br>March 22, 1968  |  |  |  | 13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS<br>John Batcha<br>9620-190-25<br>Asgrow Seed Company<br>Gull Road, Bldg. 190 - Kalamazoo, MI 49001 PHONE (Include area code): 616-385-6605 |  |
| 14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED  |  |  |  |   |  |
| a. <input checked="" type="checkbox"/> Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.)   |  |  |  |   |  |
| b. <input checked="" type="checkbox"/> Exhibit B, Novelty Statement.   |  |  |  |   |  |
| c. <input checked="" type="checkbox"/> Exhibit C, Objective Description of Variety (Request form from Plant Variety Protection Office.)  |  |  |  |   |  |
| d. <input checked="" type="checkbox"/> Exhibit D, Additional Description of Variety.   |  |  |  |   |  |
| e. <input checked="" type="checkbox"/> Exhibit E, Statement of the Basis of Applicant's Ownership.   |  |  |  |   |  |
| 15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act.) <input type="checkbox"/> Yes (If "Yes," answer items 16 and 17 below) <input checked="" type="checkbox"/> No   |  |  |  |   |  |
| 16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> Yes <input type="checkbox"/> No   |  |  | 17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input type="checkbox"/> Foundation <input type="checkbox"/> Registered <input type="checkbox"/> Certified |   |  |
| 18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.? <input type="checkbox"/> Yes (If "Yes," give date) <input checked="" type="checkbox"/> No  |  |  |  |   |  |
| 19. HAS THE VARIETY BEEN RELEASED, OFFERED FOR SALE, OR MARKETING IN THE U.S. OR OTHER COUNTRIES? <input type="checkbox"/> Yes (If "Yes," give names of countries and dates) <input checked="" type="checkbox"/> No  |  |  |  |   |  |
| 20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.<br>The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.<br>Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties. |  |  |  |   |  |
| SIGNATURE OF APPLICANT<br>John A. Batcha   |  |  |  | DATE<br>October 18, 1985  |  |
| SIGNATURE OF APPLICANT   |  |  |  | DATE  |  |

Asgrow Seed Company  
PVP Application A3307 Soybean

October 11, 1985

EXHIBIT A

Origin and Breeding History of XP3107

- 1978 - Cross was made at Ames, IA
- PARENTS: [Williams \*(Williams \* PI88.788)] \* A3127
- 1978-79 - F<sub>1</sub> and F<sub>2</sub> generations grown at Delray Beach, Florida.  
(winter)
- 1979 - F<sub>3</sub> generation grown at Ames, Iowa. Two-hundred fifty-five (255) plants selected from bulk population and threshed individually.
- 1980 - Progeny row D78307-D80-43566 was selected but was phenotypically heterogeneous so rather than harvest in bulk, four F<sub>4</sub> plants were selected out of it.
- 1981 - Progeny row D78307-D81-35736 was selected for its uniformity, standability and disease resistance. This row was harvested in bulk and seeds were checked and verified for uniform seed coat luster and hilum color. It was tested in the greenhouse in Marion, Arkansas, and found resistant to race 3 of the soybean cyst nematode.
- 1982 - D78307-D81-35736 was entered in the Preliminary II Yield tests conducted at Ames, Iowa and Cisne, Illinois. It produced uniform stands and was selected for its yield and standability.
- D78307-D81-35736 was tested for cyst nematode resistance in the field at Cisne, Illinois, and in the greenhouse at Taylorville, Illinois, and was found resistant to race 3 in both cases.
- D78307-D81-35736 was assigned the maturity designation X3107.
- 1983 - X3107 was entered in the Strain S298 Yield tests which were grown at 7 locations including: Grinnell and Ames, Iowa; Peoria, Merna and Stonington, Illinois; Oxford, Indiana; and Tekamah, Nebraska. It was also entered in the Strain S308 Yield tests which were grown at 5 locations including: Ames, Iowa; Carrollton and Stonington, Illinois; Oxford, Indiana; and Queenstown, Maryland.
- X3107 was tested for cyst nematode resistance in the greenhouse at Taylorville, Illinois and found resistant to race 3, and in the greenhouse at Marion, Arkansas and found resistant to race 4.

continued on back...

(1983 continued)

X3107 was nominated for pilot production and assigned the designation XP3107. Seventy-five (75) pounds of Breeder seed were produced at Stonington, Illinois. Part of this (17 lbs.) was sent to Isabela, Puerto Rico for increase.

1984 - XP3107 was entered in the Variety V301 and Nematode N308 Yield tests which were grown at 14 locations in Iowa, Illinois, Indiana, Nebraska and Maryland. It was selected for its high yield potential, cyst nematode resistance, excellent emergence score and excellent disease tolerance.

Foundation seed of XP3107 was produced near Perry, Iowa.

XP3107 was nominated for release and full production and assigned the designation A3307.

A3307 is uniform and stable within commercially acceptable limits based on trial observations since its development in 1981. As with other soybean varieties, variants can occur for almost any characteristic during the course of repeated sexual reproduction.

JEM:js

Asgrow Seed Company  
 PVP Application A3307 Soybean  
 October 11, 1985

EXHIBIT B

Novelty Statement Concerning A3307 Soybean

To our knowledge the soybean varieties that most closely resemble A3307 are Fayette and A3127. Characteristics which differentiate A3307 include, but are not necessarily restricted to, the following:

1. Flower Color:

A3307 = White  
 Fayette = White  
 A3127 = Purple

2. Plant Lodging Score (12 locations over 3 years of testing):

A3307 = 1.2  
 Fayette = 2.5  
 A3127 = 1.2  
 Lsd.05 = 0.3

3. Plant Height (12 locations over 3 years of testing):

A3307 = 91 cm.  
 Fayette = 102 cm.  
 A3127 = 81 cm.  
 Lsd.05 = 8 cm.

4. Yield (Bu/Ac)

|         | <u>U. of Ill.</u><br><u>Jeffersonville</u> | <u>Iowa State</u><br><u>Conesville</u> | <u>Asgrow*</u> |
|---------|--|--|----------------|
| A3307   | 29.5                                       | 31.3                                   | 41.4           |
| Fayette | 24.2                                       | 22.5                                   | 38.2           |
| A3127   | --   | --                                     | 42.0           |
| Lsd.05  | 3.7  | 6.4                                    | 2.9            |

\*Based on 9 tests conducted in 3 states over 3 years (1982-84).

October 11, 1985

FORM APPROVED: OMB NO. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
LIVESTOCK, MEAT, GRAIN & SEED DIVISION  
PLANT VARIETY PROTECTION OFFICE  
BELTSVILLE, MARYLAND 20705

EXHIBIT C  
(Soybean)

OBJECTIVE DESCRIPTION OF VARIETY  
SOYBEAN (*Glycine max* L.)

|  |                       |   |
|--|-----------------------|---|
| NAME OF APPLICANT(S)<br>Asgrow Seed Company  | TEMPORARY DESIGNATION | VARIETY NAME<br>A3307                           |
| ADDRESS (Street and No., or R.F.D. No., City, State, and Zip Code)<br>9620-190-25<br>Gull Road, Bldg. 190<br>Kalamazoo, MI 49001 |                       | FOR OFFICIAL USE ONLY<br>PVPO NUMBER<br>8600020 |

Choose the appropriate response which characterizes the variety in the features described below. When the number of significant digits in your answer is fewer than the number of boxes provided, place a zero in the first box when number is 9 or less (e.g., ). Starred characters ★ are considered fundamental to an adequate soybean variety description. Other characters should be described when information is available.

## 1. SEED SHAPE:



1 = Spherical (L/W, L/T, and T/W ratios = < 1.2)  
3 = Elongate (L/T ratio > 1.2; T/W = < 1.2)

2 = Spherical Flattened (L/W ratio > 1.2; L/T ratio = < 1.2)  
4 = Elongate Flattened (L/T ratio > 1.2; T/W > 1.2)

## ★ 2. SEED COAT COLOR: (Mature Seed)

1 = Yellow

2 = Green

3 = Brown

4 = Black

5 = Other (Specify) \_\_\_\_\_

## 3. SEED COAT LUSTER: (Mature Hand Shelled Seed)

1 = Dull ('Corsoy 79'; 'Braxton')

2 = Shiny ('Nebsoy'; 'Gasoy 17')

## ★ 4. SEED SIZE: (Mature Seed)

Grams per 100 seeds

## ★ 5. HILUM COLOR: (Mature Seed)

1 = Buff

2 = Yellow

3 = Brown

4 = Gray

5 = Imperfect Black

6 = Black

7 = Other (Specify) \_\_\_\_\_

## ★ 6. COTYLEDON COLOR: (Mature Seed)

1 = Yellow

2 = Green

## ★ 7. SEED PROTEIN PEROXIDASE ACTIVITY:

1 = Low

2 = High

## ★ 8. SEED PROTEIN ELECTROPHORETIC BAND:

1 = Type A (SP1<sup>a</sup>)2 = Type B (SP1<sup>b</sup>)

## ★ 9. HYPOCOTYL COLOR:

1 = Green only ('Evans'; 'Davis')

2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy')

3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')

4 = Dark Purple extending to unifoliate leaves ('Hodgson'; 'Coker Hampton 266A')

## ★ 10. LEAFLET SHAPE:

1 = Lanceolate

2 = Oval

3 = Ovate

4 = Other (Specify) \_\_\_\_\_

## 11. LEAFLET SIZE:

☐ 21 = Small ('Amsoy 71'; 'A5312')  
3 = Large ('Crawford'; 'Tracy')

2 = Medium ('Corsoy 79'; 'Gasoy 17')

## 12. LEAF COLOR:

☐ 31 = Light Green ('Weber'; 'York')  
3 = Dark Green ('Gnome'; 'Tracy')

2 = Medium Green ('Corsoy 79'; 'Braxton')

## ★ 13. FLOWER COLOR:

☐ 1

1 = White

2 = Purple

3 = White with purple throat

## ★ 14. POD COLOR:

☐ 1

1 = Tan

2 = Brown

3 = Black

## ★ 15. PLANT PUBESCENCE COLOR:

☐ 2

1 = Gray

2 = Brown (Tawny)

## 16. PLANT TYPES:

☐ 11 = Slender ('Essex'; 'Amsoy 71')  
3 = Bushy ('Gnome'; 'Govan')

2 = Intermediate ('Amcor'; 'Braxton')

## ★ 17. PLANT HABIT:

☐ 3

1 = Determinate ('Gnome'; 'Braxton')

2 = Semi-Determinate ('Will')

3 = Indeterminate ('Nebsoy'; 'Improved Pelican')

## ★ 18. MATURITY GROUP:

☐ 0 ☐ 61 = 000  
9 = VI2 = 00  
10 = VII3 = 0  
11 = VIII4 = I /  
12 = IX5 = II  
13 = X

6 = III

7 = IV

8 = V

## ★ 19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

## BACTERIAL DISEASES:

★

☐ 0Bacterial Pustule (*Xanthomonas phaseoli* var. *sojensis*)

★

☐ 0Bacterial Blight (*Pseudomonas glycinea*)

★

☐ 0Wildfire (*Pseudomonas tabaci*)

## FUNGAL DISEASES:

★

☐ 0Brown Spot (*Septoria glycines*)Frogeye Leaf Spot (*Cercospora sojina*)

★

☐ 0

Race 1

☐ 0

Race 2

☐ 0

Race 3

☐ 0

Race 4

☐ 0

Race 5

☐

Other (Specify)

☐ 0Target Spot (*Corynespora cassiicola*)☐ 0Downy Mildew (*Peronospora trifoliorum* var. *manshurica*)☐ 2Powdery Mildew (*Microspheera diffusa*)

★

☐ 1Brown Stem Rot (*Cephalosporium gregatum*)☐ 0Stem Canker (*Diaporthe phaseolorum* var. *caulivora*)

6

## 19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant) (Continued)

## FUNGAL DISEASES: (Continued)

- ★ ☐ 0 Pod and Stem Blight (*Diaporthe phaseolorum* var. *sojae*)
- ☐ 0 Purple Seed Stain (*Cercospora kikuchii*)
- ☐ 0 Rhizoctonia Root Rot (*Rhizoctonia solani*)
- Phytophthora Rot (*Phytophthora megasperma* var. *sojae*)
- ★ ☐ 1 Race 1 ☐ 1 Race 2 ☐ 1 Race 3 ☐ 1 Race 4 ☐ 0 Race 5 ☐ 0 Race 6 ☐ 1 Race 7
- ☐ 0 Race 8 ☐ 1 Race 9 ☐ Other (Specify) \_\_\_\_\_

## VIRAL DISEASES:

- ☐ 0 Bud Blight (Tobacco Ringspot Virus)
- ☐ 0 Yellow Mosaic (Bean Yellow Mosaic Virus)
- ★ ☐ 0 Cowpea Mosaic (Cowpea Chlorotic Virus)
- ☐ 0 Pod Mottle (Bean Pod Mottle Virus)
- ★ ☐ 0 Seed Mottle (Soybean Mosaic Virus)

## NEMATODE DISEASES:

- Soybean Cyst Nematode (*Heterodera glycines*)
- ★ ☐ 1 Race 1 ☐ 0 Race 2 ☐ 2 Race 3 ☐ 2 Race 4 ☐ Other (Specify) \_\_\_\_\_
- ☐ 0 Lance Nematode (*Hoplolaimus Colombus*)
- ★ ☐ 0 Southern Root Knot Nematode (*Meloidogyne incognita*)
- ★ ☐ 0 Northern Root Knot Nematode (*Meloidogyne Hapla*)
- ☐ 0 Peanut Root Knot Nematode (*Meloidogyne arenaria*)
- ☐ 0 Reniform Nematode (*Rotylenchulus reniformis*)
- ☐ OTHER DISEASE NOT ON FORM (Specify): \_\_\_\_\_

## 20. PHYSIOLOGICAL RESPONSES: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

- ★ ☐ 1 Iron Chlorosis on Calcareous Soil
- ☐ Other (Specify) \_\_\_\_\_

## 21. INSECT REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

- ☐ 0 Mexican Bean Beetle (*Epilachna varivestis*)
- ☐ 0 Potato Leaf Hopper (*Empoasca fabae*)
- ☐ Other (Specify) \_\_\_\_\_

## 22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

| CHARACTER   | NAME OF VARIETY | CHARACTER             | NAME OF VARIETY |
|-------------|-----------------|-----------------------|-----------------|
| Plant Shape | Fayette         | Seed Coat Luster      | A2522           |
| Leaf Shape  | A3127           | Seed Size             | A3127           |
| Leaf Color  | A3127           | Seed Shape            | A2522           |
| Leaf Size   | A3127           | Seedling Pigmentation | A3420           |



## 23. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY: Paired Comparison Data

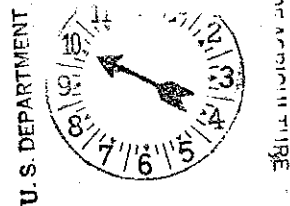
| VARIETY                          | NO. OF DAYS MATURITY | PLANT LODGING SCORE | CM PLANT HEIGHT | LEAFLET SIZE |           | SEED CONTENT |       | SEED SIZE G/100 SEEDS | NO. SEEDS/POD |
|----------------------------------|----------------------|---------------------|-----------------|--------------|-----------|--------------|-------|-----------------------|---------------|
|                                  |                      |                     |                 | CM Width     | CM Length | % Protein    | % Oil |                       |               |
| A3307<br>Submitted               | 146                  | 1.2                 | 91              | 7.0          | 11.5      | 42.0         | 19.5  | 13.8                  |               |
| A3127<br>Name of Similar Variety | 144                  | 1.2                 | 81              | 7.4          | 12.3      | 41.5         | 19.8  | 14.2                  |               |

## PUBLICATIONS USEFUL AS REFERENCE AIDS FOR COMPLETING THIS FORM:

1. Caldwell, B.E., ed. 1973. Soybeans: Improvement, Production, and Uses. Amer. Soc. Agron. Monograph No. 16.
2. Buttery, B.R. and R.I. Buzzell. 1968. Peroxidase activity in seeds of soybean varieties. Crop Sci., 8: 722-725.
3. Hymowitz, T. 1973. Electrophoretic analysis of SBTI-A<sub>2</sub> in the USDA soybean germplasm collection. Crop Sci., 13: 420-421.
4. Payne, R.C. and L.F. Morris. 1976. Differentiation of soybean cultivars by seedling pigmentation patterns. J. Seed Technol. 1: 1-19.

RECEIVED

OCT 25 1985



AMS

PVP0

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8600020

Asgrow Seed Company  
PVP Application A3307 Soybean  
October 11, 1985

EXHIBIT D

Additional Description of the Variety

A3307 is an early-mid Maturity Group III cultivar that possesses the unique combination of competitive yield potential and resistance to races 3 and 4 of the soybean cyst nematode. In addition it has excellent disease tolerance, emergence and standability. A3307 provides farmers with cyst infested fields a superior alternative to any other soybean variety in its maturity class.

JEM:js

Asgrow Seed Company  
PVP Application - Soybean A3307  
October 11, 1985

EXHIBIT E

Statement of the Basis of Applicant's Ownership

A3307 was originated and developed by John A. Schillinger and James Miller, Asgrow Plant Breeders. By agreement between employee and Asgrow Seed Company, all rights to any invention, discovery, or development made by an employee are assigned to the Company. No rights to such invention, discovery, or development are retained by the employee.

mga  
b:A3307